



BRIEF

Perinatal/Neonatal

Safeguarding Investment in PMTCT Programs by Incorporating Essential Newborn Care

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Safeguarding Investment in PMTCT Programs by Incorporating Essential Newborn Care

Indira Narayanan, Alakanada Bagchi, Mandy Rose, Carrie Hessler-Radelet, and Christina Kramer

In recent years, vast resources have been committed to the prevention of mother-to-child transmission (PMTCT) of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS). It is essential that this investment be safeguarded not just by *preventing transmission* of HIV to the baby but also by *ensuring that the baby lives*. Incorporating essential newborn care into PMTCT programs will ensure a reasonable chance of the baby surviving at least the critical newborn period (the first four weeks of life), when 50%–66% of infant deaths take place.

Linking newborn care to PMTCT is especially important given that the newborn health component of maternal and child health (MCH) programs is often inadequate. Moreover, in most developing countries, pre-service education of doctors, nurses, and midwives neglects newborn health; as a result, the basic skills and supplies to support newborn health are frequently non-existent.

Background

More than 95% of all people with HIV/AIDS live in developing countries. The transmission of the virus from infected pregnant women to their

infants is the major source of pediatric HIV infection. The United Nations Program on HIV/AIDS estimates that each year, more than 600,000 infants become infected with HIV, predominantly through mother-to-child transmission (MTCT).¹

In Africa and Asia, where 50% of all AIDS cases occur in women, MTCT is likely to continue at a rapid pace. Transmission rates can be as high as 35% when there is no intervention, but less than 5% when anti-retroviral (ARV) therapy and appropriate care are provided.² The cost of ARV therapy is high, however. It has been estimated that the cost per child infection averted is about \$1,300, and the cost per child death averted is about \$2,600.³ Nevertheless, PMTCT is a recognized priority in the national strategies of virtually all HIV/AIDS programs in countries with high HIV prevalence.

As challenging and widespread as MTCT is in its own right, it exists within environments of extremely high maternal and neonatal mortality. Approximately 529,000 women die from complications of pregnancy each year; for every death, 30 more women suffer from varying degrees of morbidity related to pregnancy and childbirth.⁴ In addition, despite reductions in child



The Burden of Deaths

- Every year, 600,000 infants get infected with HIV/AIDS, mostly through mother-to-child transmission.
- More than 3.9 million infants die before the age of one month of causes unrelated to HIV/AIDS.
- Deaths due to problems in the first month of life constitute the highest proportion (33%) of mortality among children less than five years of age.
- HIV/AIDS accounts for 3% of the deaths in children less than five years of age.

and infant mortality during the last two decades, newborn mortality remains high in many countries. More than 3.9 million newborns die every year. Deaths due to problems in the first month of life constitute the highest proportion (33%) of mortality among children less than five years of age. In contrast, 3% of the deaths in children under five are attributable to HIV/AIDS.⁵ A significant number of newborn deaths can be prevented by good maternal and newborn care.

The Millennium Development Goal for child mortality (to reduce the under-five mortality rate by two-thirds by 2015) can be achieved only with increased focus on the short, but critical, newborn period.

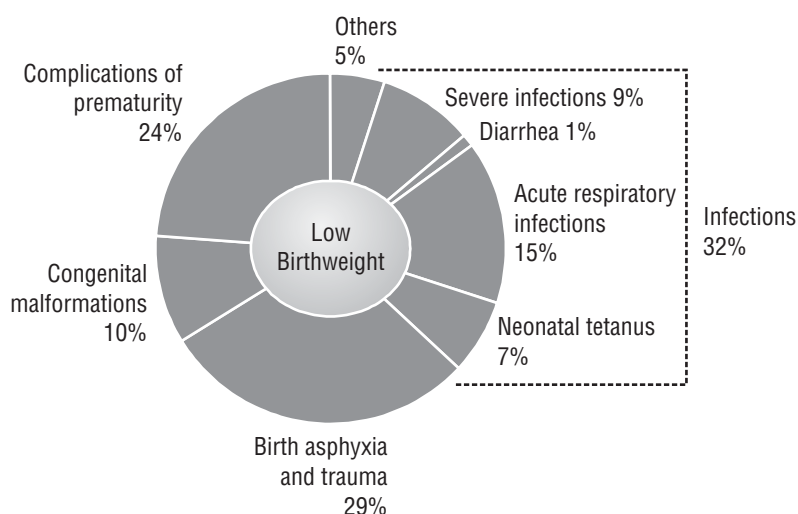
Improving maternal health interventions will also have a beneficial effect on newborn survival, especially by preventing asphyxia and, to some extent, infection. The close link between mother and baby is highlighted by the fact that when mothers die, babies are more likely to die. The importance of linking safe motherhood interventions with PMTCT programs has been

discussed previously.⁶ The linkage of newborn health—and some selected components of maternal health—with PMTCT programs will be the primary focus here.

Why Do Newborns Die?

The major causes of death in the newborn period are shown in Figure 1. The leading causes are infections (sepsis) and birth asphyxia.⁷ Prevention and treatment of these two major killers with simple, cost-effective interventions will have an impact on nearly 61% of deaths among newborns.

Figure 1. Causes of Neonatal Mortality



Source: Adapted from the World Health Organization. Based on data collected around 1999.



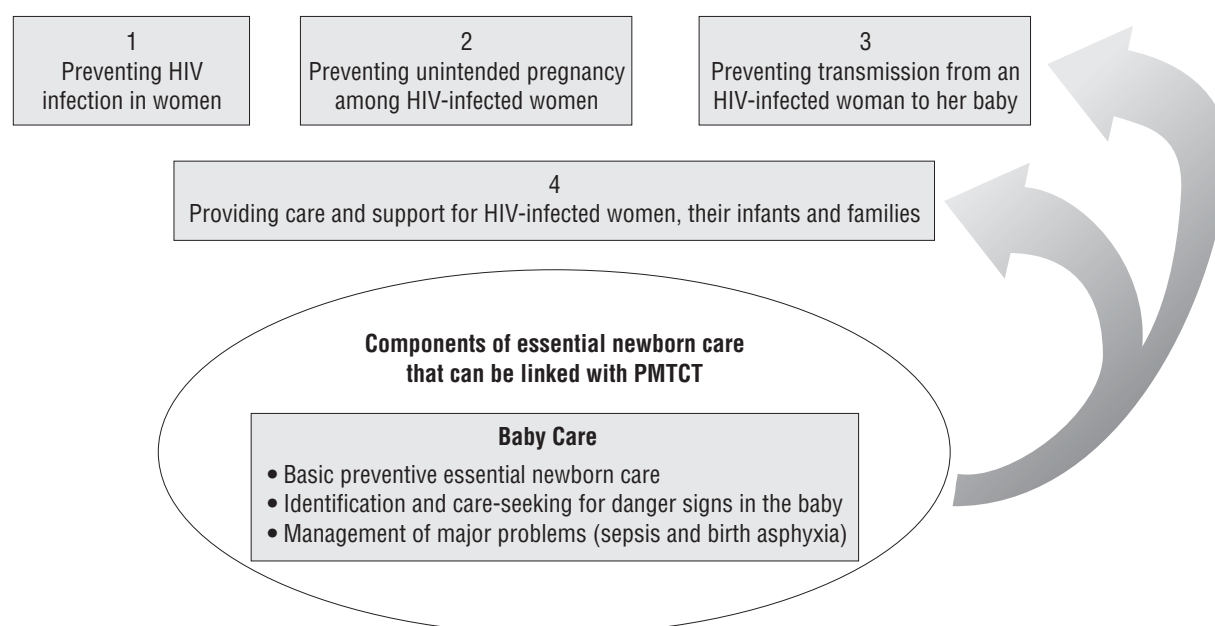
Essential Newborn Care: Part of a Comprehensive Strategy to Prevent HIV Infection in Infants

The World Health Organization has developed a four-pronged approach⁸ to prevent HIV infection in infants and to achieve the goal set by a United Nations General Assembly Special Session to reduce MTCT by 20% by 2010. This approach is shown in Figure 2. Provision of essential newborn care will enhance the impact of Prong 3, “Preventing transmission from an HIV-infected woman to her baby,” and is critical to the achievement of Prong 4, “Providing care and support for HIV-infected women, their infants and families.” The impact of preventing MTCT of HIV is stronger and more meaningful if newborns survive the first month of life and grow into HIV-free children and adults.

Ideally, PMTCT programs should be integrated with MCH programs. However, a review of integrated programs revealed that the MCH component is often inadequate.⁹ Newborn health interventions, which have long been neglected, are particularly deficient. Newborn care has often been considered a costly, high-technology intervention. While it can be costly, only a few babies need such care; the health of the vast majority of babies can be addressed by simple, cost-effective strategies.

Moreover, pre-service education in newborn care for doctors, nurses, midwives, and paramedics is deficient; when it is available, it generally fails to cover primary care of the newborn. Most cadres of health workers, at the end of pre-service training, do not have the necessary skills to provide even basic newborn

Figure 2. Linking Newborn Health with the Framework for a Comprehensive Approach to Prevent HIV Infection in Infants and Children



Source: Adapted from World Health Organization. 2002. *Strategic approaches to the prevention of HIV infection in infants. Report of a WHO meeting.* Morges, Switzerland, 20–22 March.



What is Essential Newborn Care?

Essential newborn care (ENC) is the care needed to improve newborn health and comprises:

1. Basic preventive newborn care, such as care before and during pregnancy, clean delivery practices, temperature maintenance, eye and cord care, and early and exclusive breastfeeding;
2. Early detection of problems and danger signs (particularly sepsis and birth asphyxia), and appropriate referral and care-seeking; and
3. Treatment of key problems.

care. This situation is further compounded by a lack or inadequacy of tools and programs for continuing education and supervision, and limited supplies and drugs of the sizes or strengths appropriate for the newborn.

As a result, MCH programs, as they are currently implemented in resource-poor environments, often do not have adequate newborn health components with which PMTCT programs can effectively link. Efforts to bolster the newborn health component of MCH programs must be encouraged. In the meantime, it is essential to incorporate key activities promoting newborn health into PMTCT programs. It is impractical to invest large resources in PMTCT programs without working to ensure the survival of infants who have escaped HIV transmission, especially because the vast majority of newborn deaths in developing countries can be prevented by simple, cost-effective interventions at the facility and community levels (see Table 1). PMTCT programs that integrate newborn care should emphasize the prevention and management of sepsis and birth asphyxia, the major causes of

death in the newborn period. The risk of sepsis may be a particular concern, because mothers in PMTCT programs may choose to feed their babies with formula.

Conclusion

Integrating essential newborn care into PMTCT activities is logical and cost-effective; implementing only PMTCT will not ensure survival of the newborn. Babies who were protected from HIV infection during and after childbirth may die early in life due to preventable or treatable conditions such as sepsis and birth asphyxia. Properly implemented, essential newborn care practiced within the framework of safe motherhood and child survival will increase the efficacy of PMTCT programs. Because programs and interventions for newborn health are limited or absent, the key components of essential newborn care should be developed as an integral part of PMTCT programs. PMTCT programs should safeguard their investment by ensuring that babies not only avoid infection but also thrive.

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Table 1. Framework to Integrate Essential Newborn Care into Prevention of Mother-to-Child Transmission (PMTCT) Programs

<i>Time Period</i>	<i>Core Interventions for PMTCT</i>	<i>Additional Interventions to Improve Newborn Survival and Health</i>
Before pregnancy	<ul style="list-style-type: none"> ■ Provide premarital counseling, including family planning and methods to prevent HIV infection, for both women and men ■ Provide voluntary counseling and testing (VCT) to women of childbearing age, especially in the premarital and preconception stages ■ Treat sexually transmitted diseases 	Provide: <ul style="list-style-type: none"> ■ Counseling for and administration of tetanus toxoid to schoolchildren (especially adolescent girls), as well as counseling for adequate nutrition ■ Preventive folic acid in the peri-conceptional period ■ Counseling for family planning, including suitable birth spacing
During pregnancy	<ul style="list-style-type: none"> ■ Provide quality antenatal care and nutrition counseling ■ Provide VCT, counsel women on the risks of mother-to-child transmission (MTCT) and methods to reduce risks, including anti-retroviral (ARV) use ■ Provide ARV therapy ■ Avoid or reduce all invasive procedures (most of these are not common in developing countries) 	Provide goal-oriented antenatal care, including: <ul style="list-style-type: none"> ■ Maternal tetanus immunization ■ Maternal iron and folate supplementation ■ Treatment for worms ■ Intermittent preventive treatment for malaria, and provision of impregnated bed nets ■ Treatment of sexually transmitted diseases ■ Birth preparedness (identification of place of delivery and skilled birth attendant where possible, readying of items for delivery, planning for money and transport for emergencies, identification of potential referral center) ■ Counseling of the mother in exclusive breastfeeding without pre-lacteal feeds and other supplements (modify where required for MTCT)


Table 1. Framework to Integrate Essential Newborn Care into Prevention of Mother-to-Child Transmission (PMTCT) Programs (cont'd)

<i>Time Period</i>	<i>Core Interventions for PMTCT</i>	<i>Additional Interventions to Improve Newborn Survival and Health</i>
Intrapartum and immediate post-delivery period	<ul style="list-style-type: none"> ■ Provide appropriate obstetric care with practices that minimize infant's exposure to infected blood and body fluids ■ Provide baby care that minimizes transfer of virus to the baby. For example, avoid needless and vigorous suctioning of infant's mouth and pharynx to avoid trauma and exposure to infected blood; clamp cord after pulsations cease to avoid blood spray ■ Institute all steps to prevent accidental exposure of the client/provider to HIV ■ Provide ARV therapy to mother ■ Handle and dispose of placenta and other waste material carefully and decontaminate all material that cannot be discarded before cleaning and sterilization 	<p>Ensure:</p> <ul style="list-style-type: none"> ■ Trained, skilled birth attendance ■ Clean and safe delivery practices ■ Only necessary suctioning of the mouth and pharynx ■ Immediate drying of the baby to minimize heat loss and remove maternal blood ■ Clean cord cutting and care ■ Adequate neonatal resuscitation ■ Special care for low birthweight babies ■ Delay bath (in general) to avoid hypothermia. If the bath must be given sooner, ensure use of warm water, rapid drying, and placement close to the mother ■ Promote skin-to-skin contact with the mother and initiate early, exclusive breastfeeding <p>Provide:</p> <ul style="list-style-type: none"> ■ Counseling to mother on feeding, temperature maintenance, cord care, and care-seeking for danger signs
Postpartum period	<ul style="list-style-type: none"> ■ Provide nutrition counseling and support ■ Provide guidance on infant feeding. If breastfeeding, prevent/treat sore nipples and mastitis ■ Provide counseling for family planning ■ Continue ARV regimen if available and affordable ■ Provide ARV and conduct HIV testing of baby ■ Detect and treat (promptly) <i>Candida</i> infection in the baby and mother 	<ul style="list-style-type: none"> ■ Perform early postnatal visit, preferably within 48–72 hours after birth; monitor feeding, check cord status, look for problems and danger signs for referral, and provide immunization <p>Provide:</p> <ul style="list-style-type: none"> ■ Counseling to mother on feeding, temperature maintenance, cord care, and care-seeking for danger signs ■ Extra care for low birthweight babies ■ Support services for infected and uninfected orphans

Source: Adapted from Moore, M. 2003. *A behavior change perspective of integrating PMTCT and safe motherhood programs. A discussion paper*. Washington, D.C.: The CHANGE project, AED/The Manoff Group; and UN Regional Task Force on PMTCT of HIV. 2001. *Prevention of mother-to-child transmission: Issues for SE Asia*. UNAIDS/UNICEF/UNFPA/WHO/Thai Red Cross AIDS Research Center, Technical Update #2.



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